

**P**

Name \_\_\_\_\_ Date \_\_\_\_\_

Practice: For use after Lesson 6.7, Algebra 2 with Trigonometry

**Solving Polynomial Equations**

Solve and check.

1.  $n^2 - 4n - 12 = 0$  \_\_\_\_\_
2.  $a^2 + 5a - 24 = 0$  \_\_\_\_\_
3.  $r^2 + 11r = 0$  \_\_\_\_\_
4.  $x^2 - 3x = 0$  \_\_\_\_\_
5.  $5z^2 - 20z = 0$  \_\_\_\_\_
6.  $3d^2 + 21d = 0$  \_\_\_\_\_
7.  $c^2 - 36 = 0$  \_\_\_\_\_
8.  $4a^2 - 25 = 0$  \_\_\_\_\_
9.  $z^2 - 8z + 16 = 0$  \_\_\_\_\_
10.  $6d^2 + 53d - 9 = 0$  \_\_\_\_\_
11.  $a^2 = 100$  \_\_\_\_\_
12.  $n^2 - 18n = 40$  \_\_\_\_\_
13.  $z^2 - 32 = -14z$  \_\_\_\_\_
14.  $16d^2 = 56d$  \_\_\_\_\_
15.  $x^3 - 5x^2 - x + 5 = 0$  \_\_\_\_\_
16.  $r^4 - 8r^2 + 16 = 0$  \_\_\_\_\_
17.  $(a - 1)^3 - (a - 1)^2 = 0$  \_\_\_\_\_
18.  $d^4 - 29d^2 + 100 = 0$  \_\_\_\_\_

**Applications**

19. **Algebra** Find two consecutive positive integers whose product is 72.
- \_\_\_\_\_

20. **Geometry** The length of a rectangular picture is twice its width. If the area of the picture is  $128 \text{ cm}^2$ , find the length and width of the picture.
- \_\_\_\_\_

**MIXED PRACTICE**

Solve and check.

21.  $3x - 12 = 0$  \_\_\_\_\_
22.  $r^2 - 49 = 0$  \_\_\_\_\_
23.  $2y - 7 = -17$  \_\_\_\_\_
24.  $c^2 + 2c + 1 = 0$  \_\_\_\_\_
25.  $5r^2 = 15r$  \_\_\_\_\_
26.  $11a + 56 = 3a$  \_\_\_\_\_
27.  $d^2 - 6d - 7 = 0$  \_\_\_\_\_
28.  $7z - 2 = 2z + 8$  \_\_\_\_\_

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### ***5.4 SOLVING POLYNOMIAL EQUATIONS***

Solve each polynomial equation

1. $x^2 - 5x - 24 = 0$	2. $x^2 - 13x + 36 = 0$
3. $5x^2 + 17x + 6 = 0$	4. $2x^2 - 5x - 12 = 0$
5. $5x^2 - 40x = 0$	6. $7x^2 + 21x = 0$
7. $x^3 + 5x^2 - 4x - 20 = 0$	8. $x^3 - 4x^2 - 9x + 36 = 0$
9. $48x^3 - 24x^2 + 3x = 0$	10. $8x^3 + 40x^2 + 50x = 0$